

The regime is characterised by asymmetric regulatory constraints that are aimed at compensating for BT's perceived market dominance. The actions taken include the prevention of BT's entry into the TV/entertainment broadcast business over its own network so as to encourage investment in CATV networks, which may also be used as alternative telcoms ANs. The operators of these new networks will shortly be able to offer portability of numbers from BT on a cost effective basis, as the result of further regulatory initiative. At the same time new entrant access operators are not bound by the same licensing constraints as BT, particularly with regard to interconnect and carrier access obligations. BT's own carrier access arrangements are discriminatory by nature towards their own CNO business, and do not allow true equal access or carrier pre-selection, as required by other regulatory frameworks.

The conclusion of the review on BT's future price cap tacitly accepted the failure of the existing regime to deliver the full benefits of competition to all customers. As a consequence, OfTel now appears to admit that competition will always be imperfect. This in turn means that there will continue to be a need for regulatory intervention in order to ensure that customers do benefit fully from the competition that does exist. Yet, as OfTel notes in its consultative document on BT price controls,

*"Cable companies and other access operators are not required to offer indirect access until they have market power."*<sup>3</sup>

In the absence of such a requirement, most new access operators are unlikely to offer freedom of services choice to their customers. OfTel policy is in effect to waive service and interconnect obligations for new entrants.

This asymmetry of interconnect obligations is based on the premise that no operator without market power can act independently of the market. If there is a real market demand for services that only indirectly connected operators can provide, access providers without market power will be forced to offer appropriate interconnect or access terms to them in order to maintain customer satisfaction. The rationale is premised on a crude interpretation of what constitutes market power that revolves around a simple market share test and an even simpler definition of the relevant market.

This construct is the continuing justification for what may be regarded as an unfortunate economic necessity, namely the continuation of supernormal profits from vertically integrated services business to provide cross subsidies for uneconomic infrastructure market entrants. There will be little competitive incentive for such operators to fully pass on the benefits of lower long distance carriage and other service costs to their customers.

The logical result of this regulatory regime will be the emergence of several vertically integrated oligopoly suppliers. These network-based operators, which will also act as service providers, will dominate the entire supply chain. Under this regime, with the exception of the dominant player, such network operators will be under no regulatory obligations to provide access to customers for other operators and providers of services.

The result will be that customers will be prevented from exercising true choice in their use of telecoms services offered by entrepreneurial operators, and fully benefiting from the economic benefits of effective competition. As a consequence, innovation and diversity in the provision of services will not be encouraged, and customers will suffer. Innovation needs incentives - just as infrastructure competition needs encouragement through regulatory dispensation, so guaranteed market access will encourage investment in service development and marketing to the general benefit of the market and economy overall.

### 3.3 Structural barriers and regulation

Carrier Network Operators that do not own significant customer access networks have a major role to play in delivering the benefits of telecoms competition. The use of in-direct access is an effective way of putting pressure on incumbent operators, both through reduced prices and service innovation. In this role, it has demonstrably succeeded in telecoms

<sup>3</sup> *Pricing Of Telecommunications Services From 1997*, March 1996, 6.30

markets in a number of countries such as the USA, Finland and Chile, and not just in the short term as a surrogate for local loop competition.

The current UK regulatory regime is unlikely to enjoy the benefits of effective in-direct access competition, since it does not address the significant barriers facing such operators, namely:

- high prices for network services
- restrictive conditions for supply of network services
- low level of network access and functionality
- inability to influence the development path of new network products and services
- inability to influence the time frame of new network products and services

These difficulties reflect the bottleneck role that access plays in the provision of services in a competitive market. Relying on a regulatory strategy that seeks to preserve this bottleneck in order to favour a particular market outcome is unlikely to prove a satisfactory solution. Arguments based on the ability of new operators to exercise "make versus buy" decisions in these circumstances, to circumvent these barriers, fail to reflect the diseconomies of scale that result and act as a further disincentive to service innovation. Creating additional barriers to market entry in this way rather than dismantling those existing seems perverse.

*"Competition is indisputably the most effective means - perhaps the only effective means - of protecting consumers against monopoly power. Regulation is .. a means of "holding the fort" until competition arrives. Consequently, the main focus of attention has to be on securing the most promising conditions for competition to emerge. ... It is important to ensure that regulation {does} not prejudice the achievement of this overall strategy."*

Professor Stephen Littlechild.

From the results of Of tel's own investigations, services competition is proving very slow to develop. In the consultative document "Promoting Competition Over Telecommunications Networks" the current state of such development was examined. Of tel concluded that some revision to the regulatory regime and licence obligations for service providers was warranted, but that a careful balance must be struck between their interests and those of the network operators whose competing infrastructure remains the bedrock of effective competition. We believe that such revision may be more radical than that proposed without jeopardising the position of the new entrant ANs.

## 4. Towards a new paradigm

### 4.1 Overview

In order to avoid the problems of the existing model that will become more evident over time we propose moving towards a new approach which recognises in-direct access as a key long term enabler of effective competition. This is characterised by the following attributes:

- the AN should be treated as a bottleneck
- open access should be granted to the AN through local loop rental or local call purchase to all CNs
- open access should be defined in terms of
  - *the price of access facilities*
  - *technical interfaces*
  - *access to all customers*
- strong competition at CN level
- CNOs would be defined in licence terms by their overall level of investment on network facilities and not investment in transmission
- independent SPs should have a wide choice of CNs

The key benefits of this approach are:

- universal customer choice of a wide range of basic and innovative services
- increased market stimulation
- economically efficient "make or buy" decisions. The danger of "over investment" in unnecessarily duplicated network resources should be reduced
- it is a more appropriate model for encouraging future service developments eg IN based services
- there will be higher pressure for economically efficient pricing. More competition in the CN will lead to faster price re balancing

The main argument that can be used against this model is that it will reduce the pressure on BT for efficient AN provision. But competition to BT has already been created through CATV and WLL, both of which enjoy economic advantages, because of service scope or reduced cost. In addition, the continuing pressure through the price cap will further serve to improve efficiency.

Support for this model is evident from a number of sources such as the differing perspectives of other regulators, the voluntary actions of some operators and recent analysis from a number of commentators. It is also in line with emerging EU telecommunications policy and fundamental concepts underlying its approach to competition regulation. The model is also largely consistent with recent Ofel analysis in consultative documents on Service Providers. The main conclusions there were that :

- Network Operators should pay cost based interconnect charges
- Independent Service Providers should continue to pay retail prices

The key points from this revised model are that:

- CNOs are NOs, not service providers
- it encourages Service Providers in two ways
  - *open access to all AN's leads to greater competition and lower prices at retail level (since there are more CNs competing for the customers business)*
  - *it is more attractive for independent ISPs to become CNs because of reduced barriers to entry and enhanced market access*

- it is important to define CNOs in terms of overall investment and not investment in transmission. This is becoming a commodity market and a CNO may rationally make no investment here and concentrate investment in switches and computers which is more important to innovative service development.

## 4.2 The access bottleneck

The UK model is based on asymmetric regulation of the local loop access bottleneck. The bottleneck concept is a localised instance of general market dominance. These notions are couched in terms of market share. Typically, this revolves around a standard definition whereby market power is exercisable when a supplier reaches 25% market share.<sup>4</sup> We believe that this fixation on identifying the specific share of the market at which dominance is said to occur is practically irrelevant from a customer's point of view. Whether the supplier of competing infrastructure has reached a 10%, 24% or 26% share of the relevant market, the key characteristics of a bottleneck is that it confers the ability to impose *unnecessary restraints on the reasonable use of the public network - whether technical, commercial or regulatory in nature.*<sup>5</sup> What are the implications for the local loop?

Economics dictate that, with the exception of large businesses which place a premium on security, diversity and redundancy and will contract supplies from several carriers, most customers will have a relationship with only one infrastructure supplier at a time. The result is that, for the individual customer, bottleneck power is conferred on whoever is supplying their current infrastructure. If they have a choice at all, customers will choose their supplier on the basis of:

- the bundled services package delivered by the carrier
- the switching costs involved in changing carrier

Whatever the permutations available within a service offering, the service package delivered by each network operator to its customers is a result of choices made by that carrier's product manager - customers are not able to choose from the constellation of services that are available if the product manager does not incorporate them into the bundled packages available. The result is that there is a realm of service offerings to which the customer will never have access - simply because the product manager of the local loop carrier has made a selection on behalf of that customer. That one individual is able to dictate the product mix to an entire customer base is analogous to central planning which is supposedly anathema in a free market. The outcome is that, if the package on offer is not sufficiently attractive, the customer is unlikely to change supplier, conferring continuing dominance on the existing supplier.

The second factor which customers will consider is the cost of changing supplier. The switching costs involved in changing a carrier are not trivial. Whilst the advent of number portability has removed a major barrier, a number of others remain. Some are related to the physical connections required to provision service - from drilling holes through walls to digging up gardens or fixing equipment outside a building. Others concern the contractual and administrative requirements of suppliers, the need to establish bank mandates, or the effort of purchasing new equipment or reprogramming existing equipment. If the bundled service provided by a competing network operator does not provide benefits which outweigh these switching costs, the customer is unlikely to make the change.

The result of the factors just described is that a local loop supplier which is currently defined as "non dominant" actually enjoys significant bottleneck power - from the customer's perspective, it has the ability to impose a significant commercial restraint, principally, denial of access to the complete range of telecommunications services.

Regulation is failing to address the underlying problem: the replacement of one bottleneck by another.

<sup>4</sup> As used, for example, in EU and UK competition law

<sup>5</sup> Open Network Provision applied to the Local Loop: Final Report for Commission of the European Communities DGXIII, Analysys Ltd, November 1993

### 4.3 Local loop dominance = customer dominance

The two empirical examples from the international arena set out below demonstrate:

- that ownership of the local loop confers major competitive advantage on the telecommunications company, and
- that there are mechanisms which can prevent such competitive advantage being abused by the local loop operator:

#### 4.3.1 Finland

In Finland, the telecoms market had historically evolved as two sectors, structurally separate -

- local loop operators, which provided the network from customer premises to the local exchange
- Telecom Finland, which provided the country's long distance and international services under exclusive rights

On 1 January 1994, the entire market was liberalised: the long distance company was entitled to provide local service, and the local companies were permitted to enter the long distance market. What happened is instructive. The local loop companies, which owned customer infrastructure, the customer data, and, most importantly, the relationship with the customer, took just 6 months to capture over 40% of Telecom Finland's market. TeleFinland (predominantly a CN) also controls 27% of the AN - in these cases, it has kept an average 80% of the CN market.

Telecom Finland has been left struggling to devise alternative access methods to reach its customers, in order to combat the local loop operator's ability to dominate the entire supply chain.

#### 4.3.2 Chile

The introduction of a multi-carrier system might have been expected to have produced a similar result to Finland. There is one significant difference. The regulator insisted on the introduction of per call carrier selection. This meant that the local loop became transparent to the customer, who had the ability to choose a long distance/international carrier every time they made a phone call.

The result has been that the Chilean market has seen dramatic price cuts, a wealth of special offers, and a continual battle for market share. Whilst the market is now stabilising at prices that are sustainable in the long run, the continuing ability of customers to switch their long distance and international supplier gives them real sovereignty over their local loop operator.

These two examples demonstrate that even where local loop competition has been introduced as a mechanism to address bottleneck power, the result will be dominance over the complete supply chain; and secondly, that there are regulatory mechanisms which can overcome the inherent bottleneck characteristics of the local loop.

### 4.4 In-direct Carrier access

#### 4.4.1 The need for carrier selection

Ovum have recently been undertaking extensive analysis of the role and impact of various carrier selection arrangements in international telecommunications markets for a number of clients. Our conclusions from this work inform our views as to their role in establishing a healthy competition in the provision of telecommunications services.

Carrier selection policies and mechanisms must be carefully developed if competition is to become effective. Competition in telecommunications usually starts in the long distance and international markets because profit margins are initially more attractive in these markets than in the local access networks. The reduction of any artificial barriers to entry into these markets is therefore critical in encouraging the competition, and hence in delivering the wider economic benefits. Thus a key competitive issue becomes how customers of an incumbent operator can select alternative carriers.

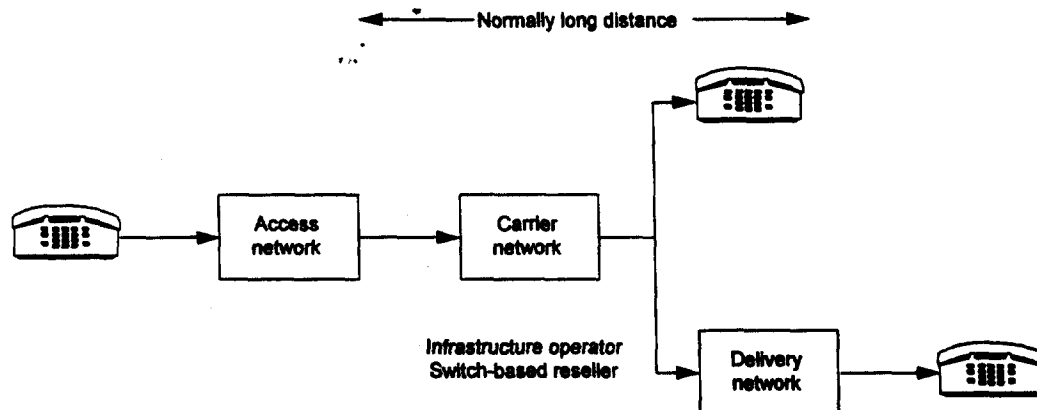
Without regulatory intervention, a profit maximising incumbent, which under its monopoly provides both the access network and the carrier network, will prevent new carriers from gaining access to its customers in its access network. It is not in the incumbent's best commercial interests to allow any carrier selection to its customers. Even if the regulator insists that the incumbent permits access, there are many ways of preventing it being effective. For example, customers are reluctant to dial long strings of extra digits, and the incumbent could require new entrants to use long access codes. The default rules - what happens if the carrier selection codes are not dialled, or are improperly dialled - can also be used to benefit the incumbent (for example all improperly dialled calls could be routed into the incumbent's carrier network).

Hence close attention must be paid to the different options in drawing up recommendations for carrier selection, and select the best option against four key criteria for carrier selection:

- will it improve the prospects for competition?
- is it simple for the customer to use?
- is it easily understood by the customer?
- is it fair to all entrants?

In our work in this area, we have examined all of the options available and considered their merits against these criteria. The generic arrangement is as shown in Figure 2.

**Figure 2: Generic definitions**



The caller is directly connected to an *access network*, which delivers the call to a *carrier network* for onward carriage. The carrier network may then deliver the call to one of its own customers or hand it to a separate delivery network. In a competitive telecommunications market there is more than one carrier network. A carrier network may be run by an *infrastructure operator* (which owns switches and transmission lines) or a *switched based reseller* (which owns one or more switches but leases transmission capacity).

Underlying these simple definitions are some important market dynamics. In all countries where competition has been introduced, new entrants initially concentrate on the long distance network because the greatest profits can be made there. Historically the monopoly incumbent operator has kept prices in the access network low. In order to subsidise the access network, prices in the long distance and international markets have been high. As a

result competitors are attracted to enter these markets, rather than the access market. Incumbents react by rebalancing prices, that is by reducing the long distance and international prices, and by increasing the access network prices. This in turn reduces the attractiveness of the carrier networks and increases the attractiveness of the access networks for market entry.

#### 4.4.2 The role of carrier selection in promoting competition

Our conclusions are that effective carrier selection is a key determinant of competition across the board and is not, in itself, detrimental in establishing local loop infrastructure competition. In fact, experience suggests that it re-inforces the need for customer ownership, hence providing an additional incentive for investment in access networks.

We believe that pre-selection with call-by-call override is the best option for customers, and will lead to the fairest treatment of all telecommunications operators. Which operators have a right to require carrier selection, and which operators have to provide carrier selection mechanisms can also give rise to considerable debate. We believe that the rights for long distance carriers should be defined by the licensing system, and the obligations with reference to the market power of the access network operators. This leads to the following conclusions:

- Operators that hold an individual licence should be have a right to carrier selection mechanisms.
- Carriers that can provide a full long distance national service or a full international service should be eligible for pre-selection (with call by call override) mechanisms.
- Operators of access networks with significant market power ( bottleneck access) should be required to provide carrier selection.

#### 4.4.3 The UK implementation

OfTel's position on indirect access is somewhat difficult to understand. On the one hand they state that *"Most residential customers would regard the international call they make as a part of a total package of calls provided by their local access operator. It is unlikely...that use of indirect access would be a realistic proposition....For the majority of residential customers the impact of increased facilities liberalisation could be fairly small."*<sup>6</sup>

At the same time they also say *"OfTel remains of the view that indirect access will make a significant contribution to a competitive market for a substantial number of residential and small business customers."*<sup>7</sup>

OfTel notes that take up in the residential market has been low, and indirect access operators have not in general been widely targeting this section of customers. *"Residential customers will...only be able to take advantage of the greater competition in national and international calls when they have effective competition amongst alternative local access providers. OfTel does not consider this will be in place at the start of the next price control period...."*<sup>8</sup>

This inconsistency of viewpoint provides a strong argument for a fundamental review of current access arrangements. Much of the resistance to the use of indirect access facilities is caused by the mode of operation chosen by BT and OfTel. Other options, including full equal access on a pre-selected and/or call by call basis would have far higher levels of user acceptability, as noted in our analysis of carrier selection options. Whilst OfTel have explicitly ruled out imposing Equal Access as a result of their Cost Benefit Analysis Study, they are now recognising that local loop competition will remain patchy for the foreseeable future. As a result, the role of indirect access, must be enhanced:

<sup>6</sup> *Pricing Of Telecommunications Services From 1997*, March 1996, 6.28

<sup>7</sup> *Pricing Of Telecommunications Services From 1997*, March 1996, 6.35

<sup>8</sup> *Pricing Of Telecommunications Services From 1997*, March 1996, 2.24

*"In the next few years the area of major growth will probably be in the area of enhanced services. Many service providers will have no network of their own and their needs must be considered alongside those of operators with their own infrastructure...Our view is that some adjustment is necessary to encourage the predicted growth of innovative services and a really competitive sustainable market in this area."*<sup>9</sup>

Continuation of the current arrangements is clearly detrimental to the interests of customers. The key issue is whether this justifies re-opening the debate over access in the short term. We believe that there are sufficient grounds to do so. Given the precipitate nature of the decision made on the Cost Benefit Analysis of Equal Access, there is a pressing need to re-examine the evidence. The current Ofel activity that seeks to identify and dismantle remaining structural barriers to market entry and effective competition seems an ideal opportunity to do so.

We believe that the analysis was both hurried and potentially flawed. The issue is of such fundamental importance to the development of competition that a full and exhaustive consultation exercise was clearly warranted. This did not appear to take place, or, at best, was obscured by the greater priority put on the "Framework" and "ICAS" consultations by the majority of the industry.

The CBA methodology used may be criticised in a number of areas. The MMC investigation into Number Portability called into question the entire conceptual basis for the approach used and highlighted a number of specific inadequacies in the methodology. These may be summarised by stating that the approach tends to underestimate the benefits whilst overstating the costs.<sup>10</sup> Re-examination of the analysis, particularly in the context of a better understanding of BT's operating procedures and costs for data build and related activities gained from the interconnection determination process should arrive at markedly different results. At the very least, reconciliation of the assumptions used with those current for other Ofel sponsored projects would tend to make the analysis more consistent with the overall basis for policy formulation.

## 4.5 The alternative model

### 4.5.1 Technology and market pressure

Regulators and policy makers see that a key goal is to develop a framework which facilitates competition amongst service providers whilst not jeopardising investment in networks. But the model currently in use in the UK is not the only way to secure these objectives. Other examples exist and more are developing under the pressure of evolving technologies and market demands. One such example is the Internet.

The exponential growth of the Internet has been driven by small service providers, for whom the underlying infrastructure is merely a transport system. The Internet has flourished *despite* the limitations of narrowband networks. Bandwidth is a constraint, but it is the explosion of services which will act as the spur to network investment, and not vice versa.

In the USA, where the Internet explosion has been most evident, network operators are being forced to radically alter their investment plans in order to cope with increased demand from users and service providers. Pacific Telesis has stated that the demand for new T-1 circuits in December 1995 alone was as high as its original forecast for the entire year. New technologies are being deployed earlier and are making a more rapid transition from trial to core network status. Most obviously, ATM has moved from being a discrete overlay technology for high end data applications to being a bulk transport mechanism for all network applications.

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<sup>9</sup> Press release accompanying publication of Ofel Annual Report *Ofel Press Release 28.3.96 DG Ofel Annual Report 1995*

<sup>10</sup> This is reinforced by the markedly different conclusions reached by an equivalent study undertaken in New Zealand.

#### 4.5.2 An international perspective

The Internet is threatening conventional perceptions of the telecommunications industry. But some countries start from a different conceptual position. For example, the USA, long distance and international resale has become a \$12 billion industry, and includes many of the country's fastest growing companies. The Telecoms Act 1996 codifies the role of existing regulation, under which,

*"carriers have discovered that, far from threatening their existence, resellers represent large volume, important costs and customers who contribute significant revenue to the carriers."*<sup>11</sup>

The Act now extends this regulation to include local resale and requires that State PUCs should determine wholesale rates on the basis of retail rates charged to subscribers for the telecoms service requested, excluding those elements attributable to marketing, billing, collection and other costs that will be avoided by the local exchange carrier.

AUSTEL, in a major review of the Australian service provider industry, also noted that access to carriers was,

*"essential to providing customers with competitive choices that are broadly substitutable for carrier services, at least in terms of type and quality...(leading to)...a wider range of new and innovative services, available at more competitive prices than exist at present."*<sup>12</sup>

#### 4.5.3 An emerging consensus

A number of recent policy analysis reports and publications have questioned the continuing value of the "OfTel/Infrastructure Competition" model. Amongst these is the Demos pamphlet "The Society of Networks: A new model for the information superhighway and the communications supermarket". This contrasts a number of model approaches to developing competition and innovation in telecoms services and offers cogent criticism of the current approach.

In particular it identifies the potential limits of regulation in the face of extreme information asymmetries between the regulator and incumbent. This tends to result in continuing market dominance by the incumbent and leads to a perceived need for greater regulatory intervention with consequent market distortions. Rather than acting as a short term proxy for competition, regulation becomes targeted at ensuring particular market outcomes, whether or not they are economically efficient or desirable.

This tends to divert companies into superfluous activity such as over investment by competitors in basic network facilities, contrasted with an under-development in service innovations and product development. Demos cite evidence from both the UK and Australia to support this contention. Recent research by Ovum comparing the UK market with other leading industrial nations has reached much the same conclusion from a quantitative perspective - there is little or no empirical evidence to suggest that infrastructure competition results in service innovation.

Demos conclude that the key to ensuring effective services competition is to differentiate between basic bit transportation and service delivery. Service providers should have non-discriminatory cost based interconnect rights to network infrastructure. Ovum concur and believe that this is the only means of breaking the stranglehold held by vertically integrated network operators. There are many examples from a variety of industries that demonstrate that this approach, with inbuilt incentives for expansion in the services market, can revolutionise what had hitherto been seen as essentially static markets with inelastic demand properties.

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<sup>11</sup> US Government statement, cited in *Service Providers Industry Study: Final Report*, March 1995, Australian Telecommunications Authority

<sup>12</sup> *Service Providers Industry Study: Final Report*, March 1995, Australian Telecommunications Authority

Similar conclusions have been reached in a EIU report<sup>13</sup>. This viewpoint also concurs with fundamental changes in network architecture resulting from Intelligent Network and other technology developments. Separation of basic transport and switching functions from service creation and management is already happening in current networks. A regulatory regime that fails to recognise this is essentially obsolescent. As more emphasis shifts to the value implicit in the communication, rather than the communication itself, unbundling of the network and service elements involved becomes a necessary pre-cursor to effective competition. This will become even more apparent in the broadband environment.

In its paper "Communicating Britain's Future", the Labour Party has noted that customers are not concerned with who owns the wire - it is access to services which is important. Its pledge to review the asymmetry rule is an indicator that there is an opportunity to move the debate beyond competing networks and onto the terrain of services.

Recently the Institute for Public Policy Research<sup>14</sup> has noted that regulation should focus on the market as a whole, and not on a single player - "the rules that apply to one company would apply to all." In what may be a key indicator of forthcoming Labour policy, a report published in July by the IPPR includes a key finding related to gatekeepers' power over key access points. *Size is no longer the main determinant of market power. What matters is control of key facilities - which can act as bottlenecks and damage competitors' ability to enter some markets.* The IPPR also invoke the Essential Facilities Doctrine as a mechanism to ensure that gatekeepers open the bottleneck facilities they control to third party access. The essential facilities doctrine originally evolved from a railroad case in 1912, under which a number of companies had controlled the only bridge into St Louis, and denied access to the bridge to their competitors. The Supreme Court decreed the bridge an bottleneck, and declared denial of access to be a restraint of trade in violation of the Sherman Act. The main elements of EFD are:

- control of a facility by a monopolist
- inability of others to practically duplicate the facility
- denial of access with subsequent harm to competition
- absence of a valid business reason for not providing access<sup>15</sup>

Whilst not explicitly stated, the EFD is used in the EU's Article 86 administrative practice to satisfy similar policy goals. According to the IPPR, the EFD *can safeguard competitors' access to bottlenecks in ways not ensured by competition policy.*<sup>16</sup>

A number of operators have already committed themselves to the voluntary separation of access and service delivery businesses that such a regulatory model would require. The

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<sup>13</sup> *Telecoms Regulation In Europe, A Barrier To Building An Information Superhighway*", EIU, October 1995

<sup>14</sup> *Regulating Telecommunications*, by David Souter, in Dan Corry (Ed) *Regulating in the Public Interest*, Institute for Public Policy Research, May 1995

<sup>15</sup> In antitrust cases the courts have consistently required monopolists to provide competitors with reasonable access to the essential facility. In the USA, local loop carriers have been required to provide non-discriminatory access to and interconnect with non-affiliated companies that may be their competitors. The MFJ and the FCC, in requiring equal access to bottleneck facilities, have gone beyond the standards required by antitrust case law. In particular, the MFJ required the local companies to provide equal access to all IXCs. To achieve equal access, LECs had to make large investment in new switching equipment over a period, and these costs were passed on to @XCs in the switched access rates. The MFJ, FCC and state PUCs have established rules that have emerged from court cases or regulatory proceedings, and based on these rules, the TOs file tariffs for interconnection services under which they are willing and obliged to serve other TOs, service providers and customers. The tariffs will include definitions of services, prices, and conditions under which the services are offered.<sup>15</sup>

<sup>16</sup> *Converging Communications: Public Policy for the 21st Century*, Christina Murrioni, Richard Collins and Anna Coote

most celebrated is Rochester Telephone in the USA. On a more limited basis, the "Equal Access" policy adopted by Kingston Communications in the UK is also relevant. This is an example of a local access network operator dealing with long distance and other service providers on a totally non-discriminatory basis precisely because it has no equivalent, vertically integrated operation of its own. This points in the direction of the most radical version of such structural separation, namely total demerger of BT Access and Services.

This proposition has been mooted by a number of industry participants in recent years. Most recently a report from Analysys has concluded that this approach may release significant value to BT shareholders, as well as delivering more effective services competition<sup>17</sup>.

#### 4.5.4 The European position

As a result of the "Information Society" initiative, and the recommendations of the Bangemann Report, the EU has fundamentally altered its approach to telecommunications regulation. This new approach is based on the full liberalisation of all member state markets, and the establishment of effective competition at both the network and services levels. Competition was seen as the best way of ensuring that operators deliver the services that customers actually desire, and hence improving the efficiency and competitiveness of the individual concern, and of the national economy overall.

This policy is being implemented through a number of Directives. The most crucial is that requiring member states to allow full competition in telecoms services by the 1st of January, 1998, Directive 96/19/EC, which was imposed over objections from some countries under Article 90. This required little amendment to the UK regime, other than the introduction of greater international competition, which has been rectified by the recent DTI activity. In order to ensure that member states could not dilute the impact of this base Directive, the CEC has proposed that an outline regulatory framework be agreed at the EU level, expressed in a number of appropriate directives, and then implemented at a national level through legislation or administrative action in accordance with the subsidiarity doctrine.

The two key proposals with respect to the UK regime, are the Directives on Interconnect and Licensing Policy. The original drafts of both Directives were at considerable variance with the UK position. The interconnect framework originally did not differentiate between network operators and service providers with respect to interconnect rights and obligations. Lobbying has resulted in a revised definition of interconnection that emphasises that it involves network to network service functionality. UK policy makers seem to believe that this allows them to continue to deny non-infrastructure based operators access to cost based interconnect rates. However, the Directive elsewhere does not maintain this infrastructure based discrimination and we would maintain that the continuation of current UK regimes based on this approach would appear to be contrary to accepted EU policy and Commission Directives.

In addition, recent CEC DGIV attention has been turned to the most appropriate application of EU competition rules to the telecommunications services markets. A report produced for the Commission addressing this issue concluded that a EU wide Telecoms Regulatory Authority had many attractions, but was unlikely to be a practical proposition<sup>18</sup>. In its likely absence, the most attractive option available to ensure uniform and consistent market development would be to strengthen the Commission's role in applying existing Treaty competition rules to telecommunications.

Article 86 in particular gives considerable powers to control or eradicate abuse of market dominance. The report notes "Regarding issues such as the determination of dominance, the current trend appears to be shifting away from reliance on a rigid market share test, towards a more detailed analysis of the market power of the undertaking concerned, taking into

<sup>17</sup> *Beyond The Internet: Restructuring The Communications Market*, Analysys, March 1996

<sup>18</sup> *The Institutional Framework For The Regulation Of Telecommunications And The Application Of The EC Competition Rules*, Forrester, Norall and Sutton

account, among other things, the strength of undertakings (both upstream and downstream), customers and suppliers, and the existence or absence of barriers to entry."

"Bottleneck" access control to groups of customers within this analysis is clearly a concern. This is reflected in Article 4.3 of the final draft of the Interconnect Directive adopted by the Council of Ministers. We would argue that the granularity of market scope used should tend towards the individual customer level because of the costs and disincentives to switching local access suppliers.

#### 4.5.4 A new paradigm

These analyses and the evidence of other environments suggest that the alternative model is generating wide support. Its adoption will involve a shift to a new regulatory paradigm that emphasises universal access and services competition. It has been well expressed in number of proposals from the TMA whose primary long term goal for regulation is stated *as access on equal terms by any user to any service provided from any source, underpinned by richness of service provision at a high and constantly improving quality of service and a low and constantly improving price.*<sup>19</sup>

The proposed three level model is based on:

- Independent service providers - who create and offer a range of value added services to end users, across the other two levels of the model
- Carrier Network operators - who compete with each other to deliver services to the local loops
- Access Network operators - who compete with each other to deliver services to the end users.

The key aspects of this model, which is the model of the future, rather than what happens today, are as follows:

- competition takes place horizontally within each level; vertical integration is not necessarily present
- the end user takes service directly from the actual service provider - the access network and the core networks are transparent to the customer
- vertical integration, whilst absent, is not precluded - there is still scope for a vertically integrated operator to offer service spanning all three levels, subject to regulatory safeguards.

This will require a change in the focus of regulation from one which promotes competition in a *vertically integrated and hence, largely artificial market* to one which actively encourages horizontal competition within the logical levels described above. According to the TMA, the role of the regulator should become less focused on the infrastructure level, and more focused on the service provision level. In this scenario, the primary role of the local loop operator is *to deliver traffic to and from the end user, and the local loop operators compete horizontally in their marketplace in order to achieve the maximum number of interconnections [with service providers and networks] and hence maximise revenues.*<sup>20</sup>

<sup>19</sup> *The Emerging TMA view on the Regulatory Regime in the UK Telecommunications Managers' Association, September 1994*

<sup>20</sup> TMA op cit

## 4.6 Reconciling the two approaches

### 4.6.1 Two levels or three?

In its investigation of Service Provision competition, Ofel sought to establish the differences between SP's and network operators by, in effect, making the network operator a subset of the SP universe. Network operators are SP's who happen to own all or part of the network infrastructure over which their vertically integrated services are provided. This is clearly compatible with our three level model, with the infrastructure level being divided into its constituent access and carrier network parts.

The services provided are divided into three categories. The first, **network services**, is further delineated into interconnection services, providing only part of an NTP to NTP conveyance, and end to end network services that form the conveyance element of services bought by retail customers of the network. These **basic retail services** are regarded as those that are closely associated with the network itself and revolve around voice telephony, associated CLASS services and customer support/billing. **Enhanced services** have a telecommunications component but have some functionality over and above the basic retail level. They comprise elements of the first two categories, purchased by a SP in the form of basic retail service, with some form of additional capability provided by the SP's own systems or customer service.

We would contend that, by this definition, in-direct access operators are clearly network operators rather than service providers as they utilise interconnection rather than end to end network services and perform their own switching and enhanced service functions. Again, this reinforces the value of the three level approach.

### 4.6.2 Interconnection, licensing and efficient pricing

The conclusions reached in the Director General's statement<sup>21</sup> following the consultation regarding the interconnect rights of licence holders appear inconsistent in this context. In particular, restricting access to "Condition 13" interconnect services and pricing only to those operators that make a significant contribution to infrastructure competition, and then defining this purely in terms of installing transmission does not seem logical.

Transmission, switching and network intelligence are necessary components for the provision of telecommunications services. Transmission facilities are needed at two levels, firstly to connect network resources together at the "trunk" or "long distance" level, and, secondly to provide the connection to the customer through the "local loop". These links, in themselves, are also made up of two components: the physical transmission medium such as copper pair, coaxial cable or fibre, and the associated electronic and optical systems that provide bearer data channels over this physical layer. An operator may choose to lease or rent either or both from another organisation. In doing so, the Statement appears to suggest that this might jeopardise the operators PTO status and continued access to interconnect services.

In licence terms this makes no sense. Operators are licenced to construct and run systems. In order to do so they are given Telecommunications Code powers which aid and enable their civil engineering activities. There is no obligation to use these powers unless considered necessary. Many operators have chosen to reach commercial agreement with others that allows them to deploy networks without building all of the transmission infrastructure. Under the terms of their licence such networks are still considered to be "run" by them, irrespective of whether the network facilities are leased or owned. Introducing some amendment to the licensing regime to the effect that this is no longer possible is a retrograde step that runs entirely contrary to the de-regulatory policies espoused by Ofel and the Government. We would welcome a detailed explanation from Ofel of the reasoning behind this position, and in particular what constitutes significant contribution to infrastructure competition.

<sup>21</sup> *Promoting Competition In Services Over Telecommunication Networks*, June 1996

By Oftel's own analysis, trunk transmission is close to being fully competitive. As such, wholesale pricing will quickly tend towards the underlying cost base, as is expected in any free and competitive market<sup>22</sup>. It is not economically efficient to require further capacity to be installed purely to meet artificial and arbitrary licensing criteria. Even at the local loop level, with the emerging competition from cable, the Fixed Radio Access operators and the substitutional effects of mobile operators, similar arguments can be made, particularly if the environmental costs of multiple "wireline" installations are considered.

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<sup>22</sup> This is a natural outcome of any rational pricing model. We believe that this is sufficient reason to reject the establishment of any intermediate "Service Provider" tariffs as the combined effects of appropriate unbundling, service packaging and competition should arrive at economically correct price levels.